



NAVY DEPARTMENT

BUMED NEWS LETTER

a digest of timely information

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No. 7

Medical Officers - Special Courses and Assignments: It is the intention of the Bureau to assign to postgraduate instruction immediately fifty (50) medical officers in neuropsychiatry at the Naval Hospital, National Naval Medical Center, Bethesda, Maryland and the Naval Hospital, Philadelphia, Pennsylvania; twenty-five (25) medical officers for instruction in pathology and laboratory procedures at the Naval Medical School, National Naval Medical Center, Bethesda, Maryland, at the Naval Hospital, Philadelphia, Pennsylvania, the Lahey Clinic, Boston, Massachusetts, and the Mayo Clinic, Rochester, Minnesota.

At least twenty-five (25) medical officers will be assigned instruction in parachute jumping at Camp Elliott, San Diego, California; forty (40) Reserve medical officers each month for training at the Naval Air Station, Pensacola, Florida, leading to the designation of Aviation Medical Examiner and twenty (20) medical officers of the regular Navy each month for instruction in Flight Surgery. Applications for instruction in these specialties should be forwarded to the Bureau of Medicine and Surgery without delay.

The next class in epidemiology for forty (40) medical officers will be assembled at the Naval Medical School, National Naval Medical Center, Bethesda, Maryland, on September 15, 1943. The next basic course of instruction for newly appointed medical officers of the regular Navy will be assembled at the Naval Medical School on August 15.

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Treatment of the Sick Not Experimentation: Referring to the Secretary of the Navy's letter of April 7th prohibiting unauthorized medical experimentation upon Service personnel, without prior consideration and recommendation by the Bureau of Medicine and Surgery and approval by the Secretary of the Navy, a letter, requesting information as to whether or not certain therapeutic measures are within the scope of the term experimental procedures, has been received by the Bureau. An abstract from the reply to this letter may be of

value: "Treatment of the sick is not experimentation inasmuch as the end in view is therapeusis, and the measures employed presumably are required to restore the sick to health.

"With regard to the selection of particular measures to be employed, the Bureau is not in a position specifically to dictate. That remains the professional and official responsibility of the medical officer in attendance and of his local superiors.

"It is therefore believed that the therapeutic measures cited in the letter do not come within the scope of ...(the Secretary's letter)."

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Nocturne: Not only in the Southwest Pacific, but in Tunisia, land fighting takes place largely at night or at dusk.

Air operations are, at least, common at night; naval engagements have frequently been nocturnal; and submarines, being now able to attack at night, occasion abandon-ship and rescue operations in darkness. Flares, if used, make the surrounding darkness more impenetrable.

This is a development, adopted to favor surprise or gain protection for attacking personnel, which amounts to an innovation in tactics, and is a feature of this war with which we should reckon in all medical planning.

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Meningococcal Septicemia May Simulate Waterhouse-Friderichsen Syndrome Without Adrenal Apoplexy: Clinical histories of 38 patients with meningococcal septicemia from the Children's Hospital in Melbourne, Australia, indicate that of 17 with fatal fulminating septicemia only 9 showed bilateral adrenal apoplexy. All 17 showed the typical features of the Waterhouse-Friderichsen syndrome but, because of the absence of adrenal apoplexy in 8 cases, the author no longer considers the syndrome a clinical entity. Adrenal apoplexy seemed to be incidental to the meningococcal septicemia. (Williams, M. J. Australia, Dec. 26, '42.)

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It seems reasonable to consider toxic adrenal suppression, as well as adrenal apoplexy, in the evaluation of the symptoms suggestive of acute adrenal insufficiency so frequently encountered in cases of fulminating meningococcemia.

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Carbamide Sulfonamide Mixtures - Use in Treatment of Compound Fractures and Traumatic Wounds: The author reports a series of 41 patients with compound fractures and other serious traumatic injuries treated with carbamide sulfonamide mixtures (C.S.M.). The mixture now most frequently used consists of carbamide (i.e. urea) 85%, sulfanilamide 13% and sulfathiazole 2%.

It may be noted that urea is supposed to enhance the action of the sulfonamides by: (a) Freeing the wound of inhibitors such as pus, debris, and aceto-lytic products; (b) increasing the concentration of the sulfonamides by increasing their solubility; (c) preventing caking of the sulfa drugs, thus lessening their foreign body reaction. In hypertonic concentrations it is thought to produce osmotic outflow from capillaries and diapedesis of cellular elements, with local increase in natural defense forces.

The author suggests that this method should be used only in hospitals where sufficient time and material, as well as technical skill, are available. Under these conditions he feels the use of C.S.M., fixation of the fracture, and primary closure of the wound will result in primary healing.

The author states that the application of C.S.M. to fresh, contaminated wounds as a first-aid measure permits a long delay before definitive surgery. Good results have been reported using only sulfanilamide. (Ilfeld, Surg. Gynec. & Obst., Apr. '43.)

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Although the advantages enumerated may be valid, our (U.S.N.) excellent war-front statistics, using sulfa drugs alone in fresh wounds, should be kept in mind.

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Urea is one of the substances which to some degree prevent the sulfa-inhibiting action of pus. This class of substances, the anti-inhibitors, of which there are a number, is currently under investigation.

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Psychoneuroses Precipitated in Combat: Schwab et al (Naval Hospital, Chelsea) report a study of twenty-five combat-precipitated psychoneuroses in enlisted naval personnel. They conclude that all of the psychoneuroses appearing after exposure to combat conditions which are incapacitating enough to send the men to a base hospital, and which persist longer than four to five weeks, are found in subjects giving a history of previous psychoneurotic disturbances. The percentage of such psychoneurotic histories is high when neuro-psychiatric studies can be made by qualified neuropsychiatric personnel.

Forty-one survivors from shipwreck or sinking by enemy action without neuropsychiatric symptoms were studied as controls. Seventy-two per cent gave a positive history of previous psychoneurotic histories in civil life prior to entering the Navy.

Further, it was interesting to note that twenty-three of the control group or fifty-six per cent were physically injured, while only eight of the neurotic group or thirty-two per cent suffered physical injury.

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Destruction of Red Blood Cells After Fat Ingestion. Possible Role in Anemias: Johnson and Freeman have shown that thoracic duct lymph of dogs, which have ingested fat, is markedly hemolytic. Fatty acids and soaps, which have presumably escaped resynthesis into neutral fat during absorption, are present in duct lymph in quantities sufficient to account for the hemolysis observed.

Although after a fat meal lymph empties but slowly into the blood stream, the circulating red blood cells become exposed to a sufficient quantity of the hemolytic agent to cause an acceleration of the normal daily red blood cell destruction. In dogs and in man the daily excretion of the degradation products of hemoglobin is greater on a high fat diet than on a low fat diet.

More directly, the presence of an agent which increases the fragility of red blood cells has been demonstrated in dog's lipemic blood.

It has now been possible to show that drinking one pint of 32 per cent cream (150 cc. of fat) causes human serum to become injurious to red blood cells, increasing their fragility.

Although in normal individuals, whose bone marrow is capable of replacing these extra cell losses, the blood destruction resulting from fat ingestion seems to be insufficient to produce anemia, it remains to be determined: (1) When the bone marrow is excessively taxed, whether regeneration of red cells after blood loss might be hastened by a low fat diet and retarded by a high fat diet, or (2) whether abnormalities in fat absorption or abnormal sensitivity of cells to the hemolytic agent described might contribute to the production of certain human anemias not associated with blood loss. (Johnson et al, Science, Apr. 30, '43.)

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Ten Years' Experience with Thorotrast Hepatosplenography: Many medical officers will be interested in the summary of experience to date on the use of thorotrast (Heyden Chemical Company stabilized 25% solution of colloidal thorium dioxide). This report covers the use of thorotrast in hepatosplenography in 286 cases. The average dose employed has been 75 cc. given intravenously, usually in divided doses of 25 cc. on each of three successive days, the film being made on the fourth day.

Thorotrast has also been used in many cases of arterial and venous disease, not reported upon, in which smaller amounts have been used for angiography. Critics felt the procedure was dangerous because of radioactivity and stated that it was objectionable because: (1) Thorotrast is not eliminated from the body; (2) it apparently blockades the reticulo-endothelial system and may thus adversely affect a portion of the body's immunity mechanism; (3) it may profoundly damage the liver and spleen parenchyma with early and late degenerative changes; (4) it is a radioactive substance and undoubtedly has dangerous cumulative radioactive effects.

The authors conclude "no immediate or remote ill effects of importance have been observed. There has been no evidence of latent radioactivity, depression of hepatic or splenic or hematopoietic function, lowered resistance to infection, or development of malignant neoplasia at the site of injection.

"Hepatosplenography is of definite value (1) in helping to diagnose cirrhosis of the liver, (2) to determine the presence of metastases in the liver, and (3) in the diagnosis of abscess of the liver.

"Care should be taken to inject thorotrast into the veins and not into adjacent tissues, not because of the possibility of the development of neoplasms, but in order to prevent the formation of nodules and to save the veins." (Yater & Coe, Ann. Int. Med., Mar. '43.)

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Food Infection - Salmonella Typing Center Established: The attention of all medical officers is invited to the extreme importance of obtaining complete identification of cultures belonging to the genus Salmonella obtained from cases of food infection. In order to facilitate this procedure, there has been established a Salmonella Typing Center in the Department of Epidemiology, U.S. Naval Medical School.

A more detailed discussion of this subject will appear in an issue of the Naval Medical Bulletin in the near future. It should be emphasized, however, that only cultures which have been tentatively identified culturally as Salmonellas or "paracolons" by station laboratories should be submitted for typing. Such cultures should be forwarded on plain agar slants in stoppered tubes, and should be accompanied by pertinent data regarding the source of the culture, nature of the associated illness or condition, and other important epidemiological information.

Cultures, and correspondence concerning them, should be addressed to the Department of Epidemiology, U.S. Naval Medical School, National Naval Medical Center, Bethesda, Maryland. Properly prepared cultures may be transmitted from any part of the world. (L.D.F.)

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The Sir Henry Wellcome Medal and Prize Given by the Association of Military Surgeons: The competition is open to all medical department officers, former officers, Acting Assistant and Contract Surgeons of the Army, Navy, Public Health Service, Organized Militia, Veterans' Administration, U. S. Volunteers, and the Reserves of the United States, commissioned officers of foreign military services, and all members of the Association of Military Surgeons, except that no person shall be eligible for a second award of this medal and prize. It should be understood that no paper previously published will be accepted.

The award of 1943, a gold medal and a cash prize of \$500 will be given for the paper selected by a committee of the Association's vice-presidents

which best covers the topic selected for the competition of this year. The title chosen is "Burns Incident to War. Measures for Their Prevention and Treatment."

The intent in formulating this title is to allow the widest scope for discussion of the subject. Under the head of preventive measures it will be possible to discuss any one or more of the several phases of the topic, such as burn prevention in aviation, on ship board, in mechanized warfare, in hazardous war industries, and in air raids upon civilian populations. Under preventive measures should be included such items as organizational arrangements, safety precautions and safety devices. Under treatment cover only the first 24-hours care of the burn and immediate complications.

Each competitor must furnish five copies of his competitive paper. Papers must not be signed with the true name of the writer, but are to be identified by a nom de plume or distinctive device. They must be forwarded to the Secretary of the Association of Military Surgeons of the United States, Army Medical Museum, Washington, D.C., so as to arrive at a date not later than August 31, 1943, and must be accompanied by a sealed envelope marked on the outside with the fictitious name or device assumed by the writer and enclosing his true name, title and address. The length of the essays is fixed between a maximum of 10,000 words and a minimum of 3,000 words. The envelope accompanying the winning essay or report will be opened by the President of the Association and the name of the successful contestant announced by him. The winning essay or report becomes the property of the Association, and will be published in THE MILITARY SURGEON. Should the Board of Award see fit to designate any paper for "first honorable mention" the Executive Council may award the writer life membership in The Association of Military Surgeons, and his essay will also become the property of the Association. (Reprinted from The Military Surgeon, Apr. '43.)

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The Heart in Experimental Thyrotoxicosis: Experimentally induced thyrotoxicosis in rabbits resulted in the following changes in the heart: Parenchymatous and fatty degeneration, cellular invasion, fraying and fragmentation of the heart muscle and fibrosis. Similar changes, but not as marked, were produced by cardiac overwork without an excess of thyroxin in the circulation. This was produced by cutting the depressor nerves and denuding the carotid sinuses of their investments in order to allow the heart to operate uncontrolled.

A heart that is induced to work more rapidly does respond with morbid anatomical changes. These cardiac alterations are, however, not as marked as those due to the effect of both thyroxin and tachycardia on the myocardium. (Nora and Flaxman, J. Lab. and Clin. Med., Apr. '43.)

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Salmonella in Retail Meat Products: Cherry, Scherago, and Weaver in a recent investigation have found Salmonella in 5.2% of a large variety of retail meat samples. Because they were able to isolate Salmonella from the mesenteric lymph glands of 10% of apparently normal slaughtered hogs, the authors feel that the source of Salmonella in retail meats may often be the animals themselves. (Am. J. Hyg., Mar. '43.)

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Atabrine and Alcohol: In reference to our previous note in the Bumed News Letter that atabrine and alcohol do not appear to be incompatible, it may now be stated that experimental results in dogs confirm impressions previously reported - "There is no significant difference in tolerance to alcohol in atabrine treated dogs." -- nor, presumably, in sea dogs.

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Acute Appendicitis in Patients with the Common Contagious Diseases: Goodman and Silverman reviewed the records of 29,802 cases of the common contagious diseases for the concomitant presence of acute appendicitis, which occurred in 53 cases, an incidence of 0.18 per cent.

In more than half the cases the appendix was found, at operation, already ruptured.

Appendicitis complicating measles apparently tends to occur during the invasive and catarrhal period of the disease - from six days before the rash to four days after its appearance.

It was pointed out that physicians often hesitate to diagnose acute appendicitis in the face of obvious signs because of the presence of a contagious disease, which in its usual course is frequently accompanied by abdominal symptoms. The literature is reviewed. (New England J. Med., Apr. 29, '43.)

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Public Health Foreign Reports:

Typhus Fever

- Bulgaria: For the period January 14 to February 3, 1943, 136 cases of typhus fever were reported in Bulgaria.
- Hungary: For the week ended March 13, 1943, 56 cases of typhus fever were reported in Hungary.
- Rumania: For the period March 8-15, 1943, 497 cases of typhus fever, including 34 in Bucharest, were reported in Rumania.
- Union of South Africa: During the month of December 1942, 224 cases of typhus fever were reported in Union of South Africa. (Pub. Health Rep., Apr. 9, '43.)

The Journal of the American Medical Association has published a series of articles on the subject of Nutrition. These articles which will later be published as a "Handbook of Nutrition" are written by various authors, each a recognized authority in the field, and cover the food substances with special attention being given to accessory food substances (the vitamins). As space and time will permit, it is planned to abstract these articles for the Bumed News Letters. The first of these abstracts, from an article by Howard B. Lewis, Ph.D., Department of Biological Chemistry, University of Michigan Medical School, follows.

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Proteins in Nutrition: The term protein was suggested by the Dutch chemist Mulder in 1839 as a designation for the universal component of tissues, both plant and animal. Today, more than a century after Mulder, the proteins are still "first" in the regulation of vital processes, and disturbances in their metabolism are associated with nutritive failure and with many pathologic conditions with which the physician is confronted.

Proteins are normal constituents of all animal cells and body fluids with the exception of bile and urine. They are essential components of both the cell protoplasm and nucleus; hence they exert a profound influence on growth. They are important in the regulation of osmotic relations between cells and intercellular fluids, between tissues and blood and play a significant role in the fluid balance of the body.

It is notable that the proteins exist as large molecules or possibly aggregates of molecules. When the large protein molecule is broken down by the addition of the elements of water (hydrolysis), a considerable number of much simpler units or building stones are formed. These units have the structure and properties of ampholytes and are known as α -amino acids. From the chemical standpoint, they are characterized by the presence of a carboxyl group with acidic properties and an amino group with basic properties, the two groups being attached to the same carbon atom. Certain units or amino acids present in the protein molecule are considered of especial importance in the structure of tissue (growth) and are commonly designated as the essential amino acids.

The amino acids are joined to each other in the protein molecule by a linkage known as the peptide linkage, in which the basic (amino) group of one acid is linked to the acidic (carboxyl) group of the adjacent acid with the loss of a molecule of water. A compound made up of two acids thus joined is known as a dipeptide, and a similar compound which contains several amino acids bound together in the peptide linkage is known as a polypeptide.

While the peptide linkage may not be the only linkage between the amino acids of the protein molecule, it is certainly by far the most important one. This is borne out by the chemical properties of native proteins (proteins as they are found in nature as contrasted with derivatives formed by the action of heat, alcohol, water, salts, enzymes and the like). The biologic reactions of the proteins are also more closely related to those of amino acids than to those of any other type of hydrolytic product of protein, such as proteoses or peptones.

The proteins as complexes of amino acids (polypeptides) may combine with either acids or bases. For the most part, the proteins as they exist in fluids and tissues of the animal organism function as acids and are in combination with bases.

When two amino acids are joined in peptide linkage, two different peptides (isomers) may be obtained. Each of these peptides would have the same percentage composition, would yield the same amino acids on hydrolysis in the same proportions and would have similar properties. Each would differ from the other in some slight variation in the arrangement of the component amino acids of the peptide chain. Each would therefore be a chemical individual distinct from the other isomeric peptide.

If it is remembered that the protein molecule is much larger than that of the peptide just discussed, that native proteins vary greatly in the amounts of amino acids which they yield on hydrolysis and that some linkages other than the simple peptide linkage almost certainly occur in the protein molecule, it is evident that the number of different proteins possible in nature is almost infinite. This individuality of natural proteins finds expression in the so-called specificity of the proteins. This may be most simply defined by the statement that every species tends to construct within the organism a protein characteristic of that species. While the basis of this specificity is undoubtedly chemical and is related to the possibilities of isomerism just discussed, this cannot be proved at present. The specificity of proteins of different biologic origin must for the present be demonstrated by biologic reactions, by the reactions observed when "foreign" protein is introduced into the organism. The phenomena of anaphylaxis, of antibody formation, of food allergies and of many other antigenic and immunologic reactions are all manifestations of this biologic specificity of the proteins, so important in many considerations of medical practice.

The protein of the human diet is obtained from both animal (meats, fish, eggs, milk) and vegetable (cereal grains, seeds of legumes, nuts) sources.

The proteins of the foodstuffs, large molecules with colloidal properties, do not diffuse readily through biologic membranes. If these dietary proteins are to be utilized, it is necessary that they be altered so that passage through the mucous membrane of the intestine is possible. This is accomplished in the gastro-intestinal canal by the process of digestion, by the action of a group of biologic catalysts or enzymes, whose activities are so coordinated as to effect a rapid and complete hydrolysis to the soluble diffusible amino acids. Since biologically the amino acids are nonspecific, digestion results in the loss of the biologic specificity of the proteins; if this were not the case, large amounts of "foreign" protein would normally enter the blood stream from the alimentary canal, and food allergies of protein origin would be of very frequent occurrence.

The enzymes concerned in this process are pepsin and rennin of the gastric juice, trypsin and chymotrypsin of the pancreatic juice and a group of enzymes known as peptidases, which are present in the pancreatic and intestinal juices and hydrolyze the peptides. Digestion is best effected if these enzymes act

upon the proteins of the diet in the natural anatomic sequence, i.e., gastric, pancreatic and intestinal.

Digestion proceeds rapidly in the intestine; the amino acids are absorbed as rapidly as they are formed by the activity of the enzymes. The question of the absorption of some portion of the protein of the diet in unaltered form into the circulation must be considered, however. In many persons, without regard to age or sex, a detectable amount of certain proteins frequently enters the blood stream in an unaltered state via the alimentary canal. This is not an accidental or unusual occurrence. These findings are of special significance in relation to the phenomena of sensitization to specific protein foods. However, it should be remembered that the methods of immunology used in these experiments are capable of detecting exceedingly minute amounts of protein and that the total amount of protein absorbed thus unaltered must be very slight. The behavior of the individual amino acids, then, must be a determining factor for the interpretation of the role of protein in normal nutrition.

The products of the digestion of proteins on absorption from the intestine enter the portal blood and after passage through the liver where they may be stored or acted upon by the liver cells they are distributed to the tissues by the systemic blood. The postabsorptive increase in the amino acid nitrogen of the blood, although not large, is unquestioned. The amino acids are rapidly taken up by the tissues, and the amino acid content of the blood returns to normal.

One of three fates awaits the amino acids which thus enter the cell. The first is condensation with other amino acids, selected by the particular tissue in question from the pabulum supplied to it by the blood, to form the protein characteristic of that particular tissue or cell. This specific synthesis, the converse of digestion, makes possible the maintenance of the individuality of the cell.

A second metabolic path is utilization of the amino acids for some special purpose in the animal economy apart from the general synthesis of cellular protein, i.e., hemoglobin, fibrinogen and the serum proteins. Amino acids are utilized also for the formation of specific proteins with hormonal function or amino acid derivatives which are hormones or chemical regulators which are not usually classed as hormones. The synthesis of the "protein enzymes" also occurs.

After the needs of the cells for these two purposes have been met, an excess of amino acids may still remain in the cells. The fate of this amino acid fraction is deamination -- removal of the nitrogenous portion of the molecule -- and utilization of the non-nitrogenous portion, since in contrast to fat and carbohydrate the storage of protein or amino acids for any considerable time does not appear to be possible. The nitrogenous fraction of the molecule, split off as ammonia, is rapidly converted into urea under normal conditions and is eliminated in this form by the kidneys. The non-nitrogenous residue which remains after deamination may either be transformed into dextrose and used in this form, the antiketogenic fraction of the protein molecule, or be converted to fatty acids, the ketogenic fraction of the protein molecule.

Whether the non-nitrogenous residue is converted to dextrose for utilization in that form depends on the chemical structure of the original amino acid. (Usually about half give rise to dextrose in intermediary metabolism.)

Physiologic and nutritional studies alike have emphasized the role of the amino acids as structural elements, the building stones of living protoplasm. Rose's studies concerning the requirements for growth of the white rat showed that certain amino acids, designated as essential, could not be synthesized by the rat and had to be supplied in the diet in adequate amounts or nutritive failure resulted. The withdrawal of other amino acids, the non-essential amino acids, did not influence the rate of growth and must therefore be synthesized in the body at a speed commensurate with the needs for normal growth. The limited data available suggest that from the qualitative standpoint the amino acid requirements of the white rat and of man are similar. Rose's experiments to discover whether deficiencies of particular amino acids produce characteristic pathological changes which can be recognized by clinical or laboratory technics are of great importance. It seems probable that most of the amino acids which are required for growth will be demonstrated to be essential for the maintenance of adult animals.

An important application of the observations that properly chosen mixtures of amino acids may replace proteins in nutrition has been the clinical use of protein hydrolysates, prepared for the most part by enzymatic action on proteins in vitro. These preparations may be administered either orally or parenterally. Intravenous administration of protein hydrolysates has been shown to be beneficial when feeding by mouth is not possible or is inadvisable. Since hydrolysis destroys the biologic specificity of the native proteins, protein hydrolysates orally administered have proved of value in supplying nitrogen to persons with severe food allergies.

The problem of the amount of protein which is essential or optimal in the diet of man has received much study. If the dietary protein of a normal adult is adequate, the nitrogen of the diet is equal to the nitrogen of the excreta. If new protein is being synthesized in the body, the nitrogen excreted is less than that of the diet and the subject is said to be in positive nitrogen balance. When the nitrogen excreted is greater than the dietary nitrogen, a condition of negative balance is obtained. This indicates an inadequate intake of dietary protein or an excessive breakdown of body protein associated with disease. There is evidence that to provide a safe allowance for health, protein in excess of the requirements for maintenance is essential.

Outstanding among the pathologic conditions which have been associated with prolonged ingestion of a diet inadequate in its protein content is nutritional edema. The continued ingestion of the low protein diet results in low levels of plasma protein, particularly the albumin fraction. The resultant lowering of the effective osmotic pressure of the plasma is believed to be the cause of the edema.

Caution is desirable in the selection of a standard protein level for nutrition. Extremes are to be avoided. (J.A.M.A., Sept. 19, '42.)

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Plague-Infected Rats Aboard Ships Give Cause for Concern to Port Officials:

Recently, a merchant vessel entering a U.S. port was found to have aboard a plague-infected rat, infested with plague-infected fleas. Fortunately, this was found by Quarantine Officials and proper precautionary measures were instituted before quarantine was lifted, and no trouble resulted.

The Chief Quarantine Officer of this port, as well as all Quarantine Officers, are quite concerned about the probability of such occurrence on other vessels. It is reported that medical certificates are seldom received from naval vessels with medical officers aboard and when such are received they frequently are incomplete. It is felt that this failure to properly cooperate with the U.S. Public Health Service in the protection of our ports is due to a lack of knowledge of the United States Quarantine Laws and Regulations and of Section II of Chapter 18, Manual of the Medical Department, on the part of the naval medical officer.

For information the following is quoted from "Quarantine Laws and Regulations of the United States" (Revised Edition, June, 1920).

"Special Regulations Relating to Naval Vessels.

140. Vessels of the United States Navy entering ports of the United States, its possessions or dependencies, are exempt from inspection if there be a medical officer aboard, provided such vessel has not sailed from a foreign port known to be or suspected of being infected with typhus, cholera, yellow fever, plague or smallpox.

141. Vessels of the United States Navy are subject to quarantine inspection upon arrival at ports of the United States, its possessions or dependencies, when from a foreign port known or suspected to be infected with yellow fever, bubonic plague, typhus, cholera, and such subsequent detention for disinfection as may be required by reason of disease aboard or exposure to such disease in foreign ports.

142. The certificate of the medical officer of the United States Navy as to the sanitary history of the vessel and its personnel may be accepted for naval vessels by the quarantine officer boarding the vessel in lieu of actual inspection.

143. Vessels of the United States Navy having entered the harbors of infected ports but having held no communication which is liable to convey infection may be exempted from the disinfection and detention imposed on merchant vessels from such ports.

144. Vessels of the United States Navy not carrying a medical officer shall, upon arrival at ports of the United States from foreign ports, be subject to the same provisions of these regulations as apply to merchant vessels."

Medical officers are also referred to Section II of Chapter 18, M.M.D. and to General Order No. 157 for their duties in this respect.

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Sample of Certificate for Medical Officers Acceptable in Lieu of Actual Quarantine Inspection (para. 2814 M.M.D.): Due to the long-felt need of a uniform certificate, the following sample copy is submitted for consideration by medical officers afloat in the preparation of medical certificates.

CERTIFICATE FOR VESSELS OF THE U. S. ARMY, NAVY, COAST GUARD AND COMPARABLE VESSELS OF ALLIED NATIONS. ONE COPY ONLY IS REQUIRED AND IS TO BE DISPATCHED BY MAIL IMMEDIATELY AFTER ARRIVAL IN PORT.

Name of vessel _____

Date of arrival _____

Port _____

The Chief Quarantine Officer,
U.S. Quarantine Station,
City _____ State _____

THIS IS TO CERTIFY THAT:

1. The sanitary condition of the vessel is satisfactory and there has been no quarantinable or other communicable disease during the present voyage.
2. No psittacine birds (including African grays, Amazons, cockatoos, lorries, lorikeets, love birds, macaws, Mexican double heads, parakeets, parrots or similar birds) will be permitted to land.
3. The vessel has not visited foreign ports known or suspected of being infected with cholera, plague, epidemic typhus fever, smallpox or yellow fever.

(or alternate paragraph)

3. The vessel has visited foreign ports known or suspected of being infected with cholera, plague, epidemic typhus fever, smallpox or yellow fever but has held no communication which was liable to convey infection.

(or alternate paragraph)

3. Communicable disease other than quarantinable has occurred during the present voyage but is under control. Active cases have been reported to the local civil health authorities upon arrival in port.
4. The vessel is believed to be free of rats and is not in need of an infestation inspection or fumigation by the U.S. Public Health Service.

(or alternate paragraph)

4. Evidence of rat infestation has been noted and an inspection by the U.S. Public Health Service is requested with a view to instituting corrective measures.
5. Duplicate copies of United States bills of health are forwarded herewith.

(or alternate paragraph)

5. United States bills of health are not available.

Signature _____

Title _____

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Blanket and Sheet Combination for Outdoor Use: "In an open lifeboat a combination of a blanket and sheet affords more protection against wind and rain or snow than a blanket alone. The combination of a blanket and a water- and wind-resistant cloth also has a number of advantages for army service where blankets must meet all sorts of conditions. A study of the properties of blankets, recently completed by Schiefer included tests of combinations of blankets and sheets. The effect of moving air on the heat-retaining properties of the blankets and of the blanket between two sheets was evaluated. The results of this study will appear in the Journal of Research." (J. Franklin Inst., Apr. '43.)

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Medical Officers of Allied Forces Welcomed in U.S. Naval Medical Establishments. (Extract from the Surgeon General's letter to Surgeon Captain A. McCallum, R.C.N.V.R.): It is realized that medical personnel afloat frequently have only meager opportunities to keep abreast of current medical practice in both their own and foreign services.

With this in mind, medical officers attached to vessels of the Royal Canadian Navy are cordially invited to visit local United States Naval Hospitals or the Bureau of Medicine and Surgery when calling at American ports.

It is hoped that by such visits the exchange of information will prove of mutual benefit.

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ALNAV #82 - 30 April: Fifty per cent reduction Bureau of Medicine and Surgery sheet X-ray film requirements necessitates stringent reduction in use immediately. Medical Supply Depots and Storehouses directed carefully check all requests and reduce quantities accordingly.

Early Detection of Gas Gangrene by Bacterial Enzymes May be of Value:

It has been known for years that organisms of the gas gangrene group as well as staphylococci, streptococci and pneumococci invade tissues, preceded by a biochemical attack, which breaks down or weakens tissue barriers. Some of these substances facilitate an immediate invasion of the otherwise resistant connective tissue.

Purified extracts of tissue such as testicular tissue and extracts of bacterial origin have been demonstrated to exhibit remarkable mucolytic activity. By acting upon the muco-polysaccharide they produce a rapid fall in the viscosity of synovial fluid and of the vitreous humor. Other work has shown the diffusing or spreading factors to be closely associated if not identical with a group of enzymes that hydrolyze hyaluronic acid, the muco-polysaccharide of connective tissue. These enzymes are called "hyaluronidases."

Although the organisms of gas gangrene are not the only ones which produce such enzymes, the characteristics of gas gangrene infection are such that it early produces large amounts of such agents. As soon as *Cl. welchii* starts to proliferate in the tissues hyaluronidase is produced in considerable amounts.

In culture it has been shown that the presence of hyaluronic acid steps up the production of the enzyme hyaluronidase. So in tissue infected with *Cl. welchii* a vicious circle exists which facilitates the astoundingly rapid spread of gas infections in tissues which are otherwise somewhat resistant to the spread of infection.

Other components of the toxins of wound-infecting organisms such as the various hemolysins, leucocidin of staphylococci and the lecithinase of *Cl. welchii* and the toxin of *Cl. oedematiens* are also liberated in the tissues and their spread may be promoted by hyaluronidase.

The authors attempted to determine how early in a gas gangrene infection these enzymes could be detected. If these enzymes could be detected at the early stage, before the well known signs of gas infection were evident, surgical management and therapy might be greatly aided.

They found that if the infecting strain was capable of producing hyaluronidase, whether it was *Cl. welchii*, *Cl. septicum* or *Cl. oedematiens*, the enzymes could be detected in the oedema fluid as soon as the infection was sufficiently advanced to produce enough fluid for examination.

The authors summarize their work as follows:

"The results of infection experiments with organisms of the gas gangrene group are described. In infections caused by organisms that produce hyaluronidase, it appears that this enzyme can be detected in the oedema fluid as soon as sufficient can be collected for examination and in the muscle as soon as the earliest sign of infection. Lecithinase (a toxin) can ordinarily be detected at a similar stage in infections due to *Cl. welchii*.

"A survey of representative strains indicates that a large proportion of *Cl. welchii* associated with clinical gas gangrene produce hyaluronidase. All the strains of *Cl. septicum* examined produce this enzyme. The position with *Cl. oedematiens* is unsatisfactory; less than half the strains of *Cl. oedematiens* examined produce the enzyme and there is no evidence that this property is correlated with the incidence of gas gangrene due to this organism. The lecithinase produced by *Cl. oedematiens* is of such low potency that it is unlikely to be of diagnostic significance in the tissue fluids.

"Methods for the detection of hyaluronidase and lecithinase which can be used in the field with the minimum of apparatus are described. Simple methods of diagnosing the bacterial source of the enzymes by means of specific neutralization tests with antisera are also described.

"It is suggested that these experimental results should be applied to the examination of clinical material from wounds in the hope that they may furnish useful diagnostic information at an early stage of the infection and thus assist both surgical and ancillary treatments."

The authors call attention to the fact that they have been working with pure cultures, not mixtures of infecting organisms as will be encountered in the field. The tests, the technic for which they give in detail, include "Tests for Viscosity-Reducing Activity of Hyaluronidase" and "Provisional Method for the Detection of Lecithinase in Wound Exudates."

They state frankly that "It remains to be proved whether the fact that the infecting organisms are proliferating in sufficient numbers to produce these enzymes in the tissues is evidence of active wound infection or whether this proliferation can occur when the organisms are only present as apparently harmless contaminants. From our experience with tissue fluids from infected animals we do, however, believe that the methods we have recommended can be applied to the examination of clinical material." (McClellan and Rogers, "Early Diagnosis of Wound Infection with Special Reference to Gas Gangrene," *Lancet*, Mar. 20, '43.)

* * * * *

It will be noted that the above report on the detection of gas gangrene by testing for the presence of enzymes is in the nature of a preliminary progress report issued in the laboratory phase of this work. It is here abstracted with the feeling that it may or may not prove of value in the field. This, as the authors indicate, remains to be proved. The technic of the necessary laboratory procedures is possibly such that the work cannot be carried out in the field but only in such hospital units as are now carrying well equipped laboratory units.

* * * * *

Subject: Instructions governing the potency and storage of biological products and other perishable drugs listed in the Supply Catalog, Medical Department, U. S. Navy.

Stock No.	Item	Storage	Potency Period
1-500 & 1-505	NEOARSPHENAMINE.	Not above 68°F.	36 months.
1-1210	TRYPARSAMIDE.	Not above 68°F.	60 months.
Sl-140	ANTIDYSENTERIC SERUM, polyvalent.	Between 35-50°F.	18 months.
Sl-160	ANTIMENINGOCOCCIC SERUM, polyvalent.	Between 35-50°F.	6 months.
Sl-180	ANTIPLAGUE VACCINE.	Between 35-50°F.	12 months.
Sl-200 - Sl-800	ANTIPNEUMOCOCCIC SERUM - Type 1 to 33.	Between 35-50°F.	12 months.
Sl-810	ANTIVENIN (Bothropic human).	Store in cool place.	60 months.
Sl-812	ANTIVENIN (Nearctic Crotalidae).	Store in cool place.	60 months.
Sl-820, 830 & 840	CHOLERA VACCINE.	Between 35-50°F.	18 months.
Sl-860	CHOLERA AND DYSENTERY COMBINED VACCINE.	Between 35-50°F.	18 months.
Sl-880	DIPHTHERIA ANTITOXIN.	Between 35-50°F.	12-48 months.
Sl-900	DIPHTHERIA TOXIN, diluted (for Schick Test).	Between 35-50°F.	12 months.
Sl-920 & Sl-940	DIPHTHERIA TOXOID, refined, alum precipitated.	Between 35-50°F.	24 months.
Sl-945	DYSENTERY ANTITOXIN, monovalent.	Between 35-50°F.	12-48 months.
Sl-960	FREI ANTIGEN.	Between 35-50°F.	12 months.
Sl-1000	GAS GANGRENE ANTITOXIN, COMBINED.	Between 35-50°F.	36 months.
Sl-1040 & Sl-1060	INSULIN.	Above 32 and not to exceed 59°F.	24 months.
Sl-1080	INSULIN PROTAMINE ZINC.	Above 32 and not to exceed 59°F.	12 months.
Sl-1100	MENINGOCOCCIC ANTITOXIN.	Between 35-50°F.	12 months.
Sl-1120	NORMAL HORSE SERUM.	Between 35-50°F.	36 months.
Sl-1140-1860	PNEUMOCOCCUS TYPING SERUM.	Between 35-50°F.	12 months.
Sl-1880 & 1900	RABIES VACCINE-HUMAN.	Between 35-50°F.	6 months.
Sl-1920	SCARLET FEVER STREPTOCOCCUS ANTITOXIN.	Between 35-50°F.	24 months.
Sl-1940	SCARLET FEVER STREPTOCOCCUS TOXIN (for Dick Test).	Between 35-50°F.	6 months.
Sl-1945	SERUM, albumin (human).	Store in cool place. Keep from freezing.	- - - - -
Sl-1960 & 1980	SMALLPOX VACCINE.	Preferably below 32, not above 41°F.	3 months.
Sl-2020, 2040, 2060	TETANUS-ANTITOXIN (purified).	Between 35-50°F.	12-48 months.
Sl-2080	TETANUS-GAS GANGRENE ANTITOXIN, COMBINED, (Prophylactic).	Between 35-50°F.	36 months.

(Reprinted from the Medical Supply News Letter - U.S.N. Med. Supply Depot, Brooklyn, N.Y.)

Subject: Instructions governing the potency and storage of biological products and other perishable drugs listed in the Supply Catalog, Medical Department, U. S. Navy

Stock No.	Item	Storage	Potency Period
Sl-2092 & 2094	TETANUS TOXOID, alum precipitated.	Between 35-50°F.	24 months.
Sl-2120	TUBERCULIN (human type).	Between 35-50°F.	60 months.
Sl-2140	TUBERCULIN (Von Pirquet Test).	Between 35-50°F.	60 months.
Sl-2160 & 2180	TUBERCULIN TABLETS.	Between 35-50°F.	60 months.
Sl-2200, 2220, 2240	TYPHOID VACCINE, COMBINED.	Between 35-50°F.	12 months.
Sl-2245	TYPHUS FEVER VACCINE.	Between 35-50°F.	12 months.
Sl-2250 & 2252	YELLOW FEVER VACCINE.	Preferably below 32 and not above 39°F.	12 months.
Sl-2820	LIVER EXTRACT, dry.	Not above 68°F.	- - - - -
Sl-2840	LIVER EXTRACT, parenteral solution.	Not above 68°F.	- - - - -
Sl-2880 & 2900	MAPHARSEN.	Not above 68°F.	24 months.
Sl-8320	SULFARSPHENAMINE.	Not above 68°F.	60 months.
Sl-3530	PLASMA, Normal Human, dried.	Store in cool place. Keep from freezing.	- - - - -

All biological products are required by law to have stamped on the label the expiration date (the date beyond which the contents of the package cannot be expected to yield their specific results), or date of manufacture or issue, and the minimum potency or strength if such can be determined are also to be included. Many of the biological products deteriorate very rapidly if kept at room or higher temperatures. This is especially true of smallpox, rabies and yellow fever vaccines, and other preparations, as the antitoxins and antimeningococcic and antipneumococcic sera. The temperatures at which some preparations are stored cannot always be as carefully regulated as is desired, and as a result there may be some loss in potency of the preparations when kept at room or high temperatures. In most cases this loss in potency of the preparations is not a sufficient cause for the survey of the preparation. Many of the preparations if not kept under refrigeration for short periods of time can be still used. Under such conditions the question of the preparations' usefulness should be brought to the attention of a Medical Officer before final disposition is made. As a general rule biological products should be kept between 35-50°F., being sure that the maximum temperature of 50°F. is not exceeded. Freezing should be avoided, except in the case of smallpox, rabies and yellow fever vaccines. These should be kept as cold as possible, the colder the better.

(Reprinted from the Medical Supply News Letter - U.S.N. Med. Supply Depot, Brooklyn, N.Y.)

Dental Engine Handpieces, Dental Burs, Scrap Tin, Mercury and Precious Metals and Dental Supplies or Equipment in Excess of Requirements:

- Reference (a). BuM&S Form Ltr. L8-2/JJ(033) of March 20, 1942
(re conservation of materials).
- (b) BuM&S Form Ltr. L8-2/JJ57(013) of June 6, 1942
(re return of dull burs).
- (c) BuM&S Form Ltr. L8-2/JJ57(013) of Oct. 3, 1942
(re allowance table for burs).

From information received by the Naval Medical Supply Depots and Storehouses, it is apparent that numerous dental officers are not familiar with reference instructions. To aid them in this respect, the following information is supplied:

All unserviceable dental engine handpieces should be promptly surveyed and returned to the Naval Medical Supply Depot, Brooklyn, New York.

As a measure to relieve the acute shortage of dental burs, all ships and stations should save, clean, thoroughly dry and oil all dull dental burs. The dull burs should be securely packaged to protect from moisture and forwarded to the U.S. Naval Medical Supply Depot, Sands and Pearl Streets, Brooklyn, New York, for resharpener. Shore stations should forward such burs monthly; ships, quarterly, or as shipment facilities permit. Stations having twenty-five (25) or more dental operating units may make local contracts for resharpener burs if facilities are available, but each such instance shall be reported to the Medical Supply Depot, Brooklyn, stating costs, quantities, suitability of facilities and other pertinent data. Resharpener burs will be issued in the same manner as new ones. Dulled excavating burs, only, should be used in prosthetic laboratory procedures.

To conserve tin, mercury and precious metals, dental activities should collect amalgam, precious metal and alloy scrap and return it to the U.S. Naval Medical Supply Depot, Brooklyn, New York, in January and July. Parcels weighing less than four (4) pounds may be mailed under Government frank. No letter of transmittal is required for dental burs or scrap metals. In the forwarding of precious metal scrap, the inner wrapping (or container) should bear the return address and notation "Precious Metal Scrap".

Dental supplies or equipment in excess of requirements should be returned to N.M.S.D., Brooklyn, N.Y., on S&A Form 71 at book value.

(Reprinted from the Medical Supply News Letter - U.S. Navy Medical Supply Depot, Brooklyn, N.Y.)

Commissioning Outfits for Submarines - Additions to:

(Reprinted from the Medical Supply News Letter - U.S.N. Medical Supply Depot, Brooklyn, N.Y.)

<u>Stock No.</u>	<u>Item</u>	<u>Unit</u>	<u>Am't.</u>
Sl-3530	Plasma, Normal Human Dried.	Pkg.	4
Sl-3790	Solution, Dextrose, 5% in normal solution, 1000 cc. container.	6 in case	$\frac{1}{2}$ case
Sl-3795	Solution, Normal Saline, 1000 cc. container.	6 in case	$\frac{1}{2}$ case

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Research on Problems of Navy Medicine: "...We have an opportunity during this period to create a new type of military medicine. I am very happy that the Navy has gone ahead and built its own research laboratory which will be devoted to the problems of navy medicine, not only during the period of the war, but as a continuing activity, bringing in civilian scientists and naval officers into this general program. A similar project is, I believe, under way in the Army. I hope that we shall in the next war have a body of fact which has come out of the researches, both in the Army and in the Navy Medical Corps, which will enable them to carry on in these problems of military medicine." (Dr. L.H. Weed, Chairman, Division of Medical Sciences, National Research Council, J.A.M.A., May 1, '43.)

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Dental First Aid Instruction for Pharmacist's Mates Assigned to Submarines:

The bane of a submarine captain's existence is to have one of his crew injured. In most cases of systemic injury something can be done to alleviate suffering. Conversely, in many cases of dental emergencies, the pharmacist's mate may stand by helplessly. Taking cognizance of this fact, the dental activity of the Dispensary, Navy Yard, Portsmouth, N.H., has instituted a course of instruction in treatment of various dental emergencies liable to be encountered.

A small group of pharmacist's mates is assigned regularly to the dental clinic to observe these various conditions and the treatment used. They are taught how to mix the various medicaments and when to apply each. A mimeographed sheet covering these treatments and symptoms of the condition to be treated is then given to each one so that his memory can be refreshed. Along with this, a kit containing the drugs used is given to each man.

Commanding officers of submarines have commented favorably on the benefits which have accrued to their men from these courses given to hospital corpsmen on this important independent duty.

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The Inhalatory Route for Prophylaxis and Treatment of Experimental Influenza: Krueger reports high titer influenzal antiserum, prepared by injecting horses with several strains of influenzal viruses, when administered either by intranasal inoculation or by inhalation, protected mice against subsequent intranasal infection with influenzal virus.

The treatment of mice with horse immune serum intranasally, or with globulin administered by inhalation subsequent to infection with influenzal virus, effectively reduces the number of lung lesions. (Am. J. Med. Sc., in press.)

* * * * *

Syrette of Morphine Tartrate, the Emergency Hypo-unit: Recently the nineteenth million Syrette rolled off the production line of the E.R. Squibb and Sons Company. Sometime during 1939 Lieutenants P.T. Rees and Eric Fernquist (then chief warrant officers) urged Squibb and Sons to experiment with the production of a ready-to-use hypodermic unit.

This work brought about what is known as the Syrette. Now the Army, Navy and Maritime Service have morphine in this safety-sealed, handy, immediately injectable, throw-away syringe available for use in the treatment of shock and injury. In this war both a new word, "Syrette," and a new packaging of morphine have surely come of age, have been tried and found worthy.

* * * * *

Nerve Fragments Frozen for Later Use as Grafts: A method for storing fragments of nerves for future use as grafts, somewhat as blood is now stored for future use, was announced by Dr. Paul Weiss, of Chicago, at the recent meeting of the American Neurological Association. The nerve fragments can be stored indefinitely without losing their effectiveness as grafts. They are frozen at 150 degrees below zero Centigrade, dehydrated in a high vacuum, sealed in and stored in the dry condition. They are rehydrated before use. "This treatment," he said, "leaves the histological, biophysical and biochemical properties of the nerve essentially unharmed. When grafted, such nerves are readily and fully pervaded by regenerating nerve fibers, much as if they were living."

Sleeves of fresh or frozen-dried arteries are another aid to the neurosurgeon. "With their aid, nerve stumps can be spliced without being sewed together and practically ideal nerve regeneration has been obtained." (Science Supplement, May 14, '43.)

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Crocodiles in India and Australia: The sea-going species (Crocodyus porosus) is considered to be the most likely to attack man. Some beaches, particularly those along the coasts of Australia, build nets to enclose all swimming areas, not for protection against sharks, but from crocodiles.

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S85/EN(073-41)
May 12, 1943

From: The Chief of the Bureau of Medicine and Surgery.
To: The District Medical Officer, All Naval Districts.
Via: The Commandant.

Subject: Medical Motion Pictures, Distribution of.

Enclosure: (A) List of Medical Films now available.

1. A number of motion pictures and slide films on medical subjects are now available, Enclosure (A). The Bureau of Medicine and Surgery, in co-operation with the Training Film Unit of the Bureau of Aeronautics, is producing and procuring from outside sources additional films of interest to Naval Medical and Dental Officers, Nurses and Hospital Corpsmen. These films will be distributed as they become available.

2. It is impossible to furnish copies of these films to all Naval activities for their permanent film libraries. A circulating library type of distribution is being introduced. One or more copies of each medical film procured for Naval use will be sent to the Commandant of each Naval District, addressed "Training Aids Library." A letter describing the film and its contents will be directed to the District Medical Officer.

3. It will be the duty of the District Medical Officer to arrange for the routing and scheduling of the films so that they may be seen by the medical personnel of the various activities in the District. Fleet medical personnel temporarily ashore while their ships are in port should also be afforded an opportunity to see the films, as no method of distribution to the Fleet seems feasible at present.

4. The care of the film, mailing, etc., is the duty of the District Training Aids Library personnel.

5. After an original experience with this type of distribution, film allotments may be adjusted so as to secure satisfactorily rapid distribution.

ROSS T. McINTIRE.

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It may be well to emphasize, that as noted in paragraphs three and four of the preceding letter, the films listed below are not available through the Bureau of Medicine and Surgery nor through the Bureau of Aeronautics Training Film Unit, but may be obtained by request directed to the District Commandant.

MEDICAL TEACHING FILMS MADE FOR THE U. S. NAVY

SYMBOLS -- All training films of the Navy Department are assigned serial numbers and code letters. For your information code listing is as follows:

First Letter (type of visual aid):

M--motion picture.

S--film strip.

Second Letter (for whom produced):

A--United States Army.

G--Government agency other than the Army, Navy, Marine Corps, or Office of Education.

N--Made expressly for Navy training.

Miscellaneous

- MN-602 Navy Men of Medicine (Sound - 15 min.)
Emphasizes the importance of the Bureau of Medicine and Surgery, gives glimpses of Naval Hospital facilities ashore and afloat, and shows some phases of the training of Hospital Corpsmen.
- MN-1788 The Medical Department in Amphibious Assault (Sound - color - 20 min.)
Diagrammatic and actual representation of a landing force operation showing the work of the Medical Department in establishing aid stations and evacuating the wounded to the rear.
- MN-1555 The Preparation of Liquid Plasma (Silent - color - 20 min.)
Shows the method employed by the Army and Navy Medical Corps in taking blood, pooling and culturing the plasma drawn off from it, distributing the plasma into bottles, packing and shipping it.
- MN-1556 How to Use Dried Plasma (Silent - color - 12 min.)
Shows the method of regenerating dried plasma of the Army-Navy Set. This is followed by demonstration of administering plasma to the patient.
- MN-2145 How to Use Serum Albumin (Silent - color - 8 min.)
Shows the method of unpacking human serum albumin in the Army-Navy Set. Preparations for use and actual administration are shown.
- MA-2392 Malaria--Cause and Effect (Sound - 22 min.)
Differentiates harmful from harmless mosquitoes, shows the steps in the development of the mosquitoes, describes how they transmit disease, and shows various methods of mosquito control.
- SN-1581 Weights and Measures for Hospital Corpsmen--Metrology (Sound - 86 frames)
An outline of the principal points in the apothecary and metric systems of weights and measures.

Medical Teaching Films (cont'd)

MN-1558 Fractured Vertebra--Crutchfield Tongs Reduction (Silent - color - 9 min.)
Surgical technic and follow-up of case with X-rays.

MN-1724 Skeletal Fixation by the Stader Splint (Sound - 22 min.)
Deals with the mechanics of the Stader Splint per se, and shows its use in fractures of the tibia and fibula.

First-Aid and Safety

MN-299a Essentials of First Aid (Sound - 30 min.)
Describes some of the medical facilities afloat, methods of transporting and protecting injured men, rescuing and reviving men overcome by smoke, contents of Navy First Aid Kits, steps in the examination and treatment of the wounded, application of splints to the arms and legs, treatment of burn casualties, dressing arm and chest wounds, and control of bleeding.

First Aid Training Kit:

This kit, to be used for First Aid Personnel training, contains the following slide films with records:

- SN-215 Purpose of First Aid (Sound - 51 frames)
- SN-216a The Body, Part I (Sound - 43 frames)
- SN-216b The Body, Part II (Sound - 46 frames)
- SN-217a Shock (Sound - 29 frames)
- SN-217b Unconsciousness (Sound - 59 frames)
- SN-218 Common Emergencies, Part I (Sound - 58 frames)
- SN-219 Minor Injuries (Sound - 65 frames)
- SN-220a Wounds, Part I (Sound - 50 frames)
- SN-220b Wounds, Part II (Sound - 49 frames)
- SN-221a Dressings and Bandages, Part I (Sound - 52 frames)
- SN-221b Dressings and Bandages, Part II (Sound - 42 frames)
- SN-222 Burns (Sound - 38 frames)
- SN-223a Fractures, Part I (Sound - 55 frames)
- SN-223b Fractures, Part II (Sound - 55 frames)

Medical Teaching Films (cont'd)

- SN-224a Moving the Injured, Part I (Sound - 43 frames)
- SN-224b Moving the Injured, Part II (Sound - 54 frames)
- SN-225 Artificial Respiration (Sound - 33 frames)
- SN-225b First Aid for Survivors (Sound - 85 frames)
- SN-226 Poison (Sound - 36 frames)
- MN-836(a-e) Personnel Damage Control (Sound - color)
A series of five films dealing exclusively with Battle Station First Aid.
- a. Fundamentals of First Aid (15 min.)
 - b. Wounds (18 min.)
 - c. Bomb Blast and Burns (11 min.)
 - d. Fractures (20 min.)
 - e. Artificial Respiration (8 min.)
- MA-2375 Swim and Live (Sound - 21 min.)
Principles of swimming; emergency methods for survival in the sea for long periods of time; transportation of the injured in the water; how to swim through burning oil.
- SN-320 Man Overboard Emergency Drill (Sound - 20 min.)
Demonstrates the procedures involved in rescuing a man overboard, including the launching of a boat, signaling, and securing the boat after rescue.
- SN-1358 Care and Use of Ring Buoys, Life Jackets and Life Suits (Silent - 66 frames) Describes the inspection, care and use of ring buoys, life jackets and several types of life suits. Emphasis is placed upon precautions to be observed in their use and maintenance.
- SN-928B Emergency Equipment for Seaplanes--Life Rafts and Life Jackets. Part II (Silent - 41 frames) Describes these items of emergency equipment as carried in seaplanes, and how they are used.
- SN-81 Fireroom Safety Precautions (Silent - 49 frames)
Uses positive and negative examples to demonstrate the safety measures which must be taken to protect equipment and personnel in the firerooms aboard Naval vessels.
- SN-82 Lighting Off, Securing, and Cleaning Precautions (Silent - 45 frames)
Illustrates the procedures and precautions to be observed in "lighting off" or starting and "securing," or shutting down oil-fired boilers as installed in the latest Navy vessels.

Medical Teaching Films (cont'd)

Aviation Medicine

MN-32 Oxygen in Aviation (Sound - 25 min.)
Calls attention to the need for oxygen in high altitude flying. Describes the oxygen masks and types of related equipment, their proper use and benefits derived from their utilization.

MA-1392 Physiology of High Altitude Flying (Sound - 35 min.)
Indoctrination film for flying personnel, illustrating the problems of high altitude flying, such as anoxia, aeroembolism. Use is made of the low-pressure chamber to demonstrate effects of high altitude.

Venereal Disease Control

MN-38 Sex Hygiene (Sound - 20 min.)
Describes how venereal diseases are contracted, the parts of the male anatomy infected, and the relative frequency of the various diseases. Examples of the diseases and preventive procedures are demonstrated. Stress is placed upon promptly reporting for prophylaxis after possible exposure.

MG-2355 Fight Syphilis (Sound - 10 min.)
Story of syphilis showing avenues of contagion, diagnosis, and the efforts being made for control.

MN-937 Know For Sure (Sound - 20 min.)
Treatise on the subject of syphilis, its prophylaxis and care. A film for male industrial employees to give them further information on the cause and prevention of syphilis.

MC-1001 Health is a Victory (Sound - 12 min.)
The story of the fight against gonorrhea. Describes the appearance of gonorrhea germs, the frequency with which the disease occurs, symptoms of the disease, some of the steps in isolation of the germs, how the disease spreads, and the methods of treatment.

Dental Films

MN-318 Oral Hygiene (Silent - color - 10 min.)
Illustration of the common-sense rules for keeping mouth and teeth clean.

SG-1783 Oral Hygiene (Silent - 124 frames)
Slide film illustrating the rules for keeping mouth, teeth, and gums clean.

MN-1053 Treatment of Jaw Fractures (Silent - 25 min.)
Demonstrates the application of several different kinds of jaw splints, including extra-oral fixations with vulcanite attachment. A skull and actual applications are used for the presentation.

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Bureau of Medicine and Surgery Form Letters reprinted in this issue from Navy Department Semimonthly Bulletin, May 1, 1943:

Subject: Litters, Metal Pole, Reduction in Allowance of.

Subject: Emergency Procurement of Medical Supplies for Seagoing Units of the Coast Guard.

From the Office of the Secretary:

Subject: U.S. Naval Medical Supply Depots - Redesignation of.

From the Office of the Chief of Naval Operations:

Subject: Special Six-Cent Air Mail Rate for Members of Armed Forces of Our Allies.

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BUREAU OF MEDICINE AND SURGERY

From: The Chief of the Bureau of Medicine and Surgery.
To: All Ships and Stations.

P-4:KC
FS/S37-2(021-42)
April 26, 1943

Subject: LITTERS, METAL POLE (STOCK NO. 6-145, SUPPLY CATALOG, MD, USN), REDUCTION IN ALLOWANCE OF.

Reference: (a) BuMed Form Letter No. 31, dated May 13, 1942.

1. The allowance of metal pole litters for combatant ships and for auxiliary ships, other than troop-carrying vessels, is reduced from 3%, as stated in reference (a), to 1% of the complement of each ship.

2. The allowance of metal pole litters for troop-carrying ships of types AK, AKA, AP, APA, APc, APD, APH, and for allocated vessels serving with the Navy remains at 3% of the complement of each ship plus 5% of the number of troops carried.

3. The allowance for LST type vessels remains at twelve (12) metal pole litters for each vessel.

4. Excess litters resulting from this reduction in allowance may be delivered to the supply officer for transfer to the nearest Naval Medical Supply Depot or Naval Medical Storehouse. Such transactions should be recorded on Form S&A-71 at book value.

L. SHELDON, JR.
Acting

BUREAU OF MEDICINE AND SURGERY

From: The Chief of the Bureau of Medicine and Surgery.
To: All Ships and Stations.

A4-1/QS13(023)
F-PIL
April 13, 1943

Subject: EMERGENCY PROCUREMENT OF MEDICAL SUPPLIES FOR
SEAGOING UNITS OF THE COAST GUARD.

References: (a) ALNAV 136 of November 27, 1941.
(b) Par. 3079, Manual of the Medical Department.

1. Effective immediately, commanding officers of seagoing units of the Coast Guard may request emergency issue of medical supplies (as distinguished from equipment) from the currently nearest naval vessel or shore establishment of the Navy. Any Medical Department activity having available medical supplies is authorized to issue such supplies to vessels of the Coast Guard, upon prescribed letter request. Such issues are subject to the approval of the requisitioned activity. Items issued shall be invoiced on S&A Form 71 which shall be receipted by the receiving activity. A signed copy of such voucher shall be submitted to this Bureau by the issuing activity.

L. SHELDON, JR.
Acting

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OFFICE OF THE SECRETARY

From: The Secretary of the Navy
To: All Ships and Stations.

Opl3C-jc
Serial 81413
April 17, 1943

Subject: U.S. NAVAL MEDICAL SUPPLY DEPOTS - REDESIGNATION OF.

1. The Naval Medical Supply Storehouse, Pearl Harbor, T.H. is hereby redesignated

U.S. Naval Medical Supply Depot,
Pearl Harbor, T.H.

2. The Naval Medical Supply Storehouse, No. 8, Balboa, C.Z. is hereby redesignated

U.S. Naval Medical Supply Depot,
Balboa, C.Z.

Bureaus and offices concerned take necessary action.

FRANK KNOX

OFFICE OF THE CHIEF OF NAVAL OPERATIONS

From: Vice Chief of Naval Operations.
To: All Ships and Stations.

Op20M-mc
Serial 1920520
April 19, 1943

Subject: SPECIAL SIX-CENT AIR MAIL RATE FOR MEMBERS OF
ARMED FORCES OF OUR ALLIES.

Reference: (a) ALNAV 280/1942. (Which stated that air mail rate of six cents for each half ounce or fraction thereof has been extended by Post Office Department to members of armed forces of our allies under command of U.S. Navy and who receive mail overseas through Navy post offices.)

1. Reference (a) is further amplified by the following quotation from the U.S. Post Office Department:

"While the order mentioned refers only to matter carried by airplane to and from the personnel of the armed forces of the United States stationed outside the continental United States and to and from contractors and civilian employees receiving mail through Army or Navy post offices outside the continental United States, under a liberal construction of the order it is held that such rate would also apply to air mail of members of the armed forces of our allies on vessels at sea or at overseas bases serving under United States Command when sent to places where the United States domestic mail service is in operation or when sent from places where such service is in operation addressed to the members of our allied forces overseas serving under United States Command.

"This air-mail rate, however, would not apply to air mail sent by such members of the armed forces of our allies when addressed to civilians or allied military personnel in allied countries when the letters are not carried in their entirety in the United States domestic mail service. In order to be acceptable for mailing at the air-mail rate of 6 cents a half ounce or fraction thereof, letters intended for such allied military personnel must be addressed in care of a Fleet post office at or through a post office at a port of embarkation located in the continental United States, such as New York, N.Y., San Francisco, California, etc., or an A.P.O. in care of the postmaster at such a port. Likewise, when matter intended to be transported by air at the rate of 6 cents per half ounce is mailed by such personnel at overseas points, the same address should appear in the return card thereon to show that the matter is acceptable at this rate."

THOMAS B. INGLIS
By direction

